

## Navy Cuts Ribbon on New Biodefense Laboratory at Ft. Detrick

In the spirit of interagency collaboration and promoting synergy in science and research excellence, Navy, Army and other federal agency representatives and guests gathered at Ft. Detrick in Frederick, Md. May 2 for the inauguration of the new Navy research laboratory on the base. The new home of the Naval Medical Research Center's ([NMRC](#)) Biological Defense Research Directorate (BDRD) is building 8400, a 36,600 square-foot facility.

Prior to cutting the ribbon, Navy Capt. Richard L. Haberberger, Jr., NMRC commanding officer, expressed his pride by saying, "Welcome aboard. It's been an adventure from BRAC [Base Realignment and Closure] to bricks to spit and polish. The building is amazing, the science conducted inside is outstanding, and the people who work here are incredible."

BDRD has six primary research areas: immunodiagnostics, molecular diagnostics, vaccine and countermeasure research, genomic research, international field microbiology projects, and mobile laboratory response in support of military operations. The new lab reflects that Navy Medicine is a partner in the National Interagency Confederation for Biological Research.

Rear Adm. Bruce A. Doll, medical advisor, headquarters, Supreme Allied Commander Transformation, said, "Today we have an opportunity we have not had before: this stand-alone, beautiful facility where Navy Medicine can do its mission on behalf of the Navy, Marine Corps and our nation. It was a lot of work to make this day happen, and we have to thank those who planned, built and outfitted this facility, the Navy team, MRMC [the U.S. Army Medical Research and

*(Continued on page 5)*



From left: Navy Capt. J. Christopher Daniel, deputy command, MRMC; Rear Adm. Bruce A. Doll, medical advisor, Headquarters, Supreme Allied Commander Transformation; Navy Capt. Richard L. Haberberger, Jr., commanding officer, NMRC; and Mr. Scott Drumheller, local program manager, Ft. Detrick Integrated Program Officer, U.S. Army Corps of Engineers, Baltimore District, cut the ribbon to building 8400 at Ft. Detrick in Frederick, Md.

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## Commanding Officer's Message

Often, when we talk about Navy Medicine's notable achievements in biomedical research and development, we highlight those who came before us whose efforts and accomplishments laid the cornerstones for the foundation of our successful enterprise. To sustain our legacy, we also need to look to the future, and that means reaching out to our nation's young people and inspiring them to plan a productive and creative career in medicine and research. The need is great because large numbers of Naval science, technology, engineering and mathematics (STEM) professionals will be retiring over the next few years, and fewer American students are graduating with the preparation and interest needed to pursue STEM careers. STEM fields are academic and professional disciplines considered the core technological underpinnings of a successful society, and the strength of the STEM workforce is viewed as an indicator of a nation's sustainability.

This summer, NMRC is proud to have six high school students, five undergraduate students and one graduate student participating in our STEM outreach efforts.

These students represent four area high schools (Northwest, Richard Montgomery, Montgomery Blair, and Thomas Jefferson High School for Science and Technology) and four colleges (Gettysburg College, the University of Pittsburgh-Bradford, the University of Georgia, and the University of Toledo). All will be working in the Infectious Diseases Research Directorate here.

Did you know that only 33 percent of eighth graders are interested in STEM majors and only six percent of high school seniors will get a bachelor's degree in a STEM field? The U.S. is ranked 27th out of 29 developed countries for the rate of STEM bachelor's degrees awarded. Six percent of U.S. undergraduates major in engineering compared with 12 percent in Europe, 20 percent in Singapore and 40 percent in China. I encourage all of our science staff to actively serve as ambassadors of Navy Medicine research and development and reach out to both schoolchildren and college students who will be our future scientists and researchers.

For more information on the Navy's STEM program, visit the Office of Naval Research website at <http://www.stem2stern.org/index>.



Commanding Officer sends,  
Richard L. Haberberger, Jr.  
CAPT, MSC, USN

## Navy Medicine Headquarters Moves To Falls Church, Virginia

By Shoshona Pilip-Florea, BUMED Public Affairs

U.S. Navy Bureau of Medicine and Surgery, the flagship command for all of Navy and Marine Corps medicine, started relocating its staff May 30 from Washington, D.C., to Falls Church, Va., as part of the Base Realignment and Closure (BRAC) Act of 2005.

Vice Adm. Matt L. Nathan, U.S. Navy surgeon general and chief, BUMED, officially transferred his flag June 1, with the rest of the BUMED staff completing their move by June 5.

"BUMED is alive and strong," said Nathan at a symbolic "Change of Port" ceremony held May 3 at BUMED's former location in Washington, D.C. "It is a culmination of the men and women who serve the Navy Medical Department, whom our Sailors, Marines and their families are counting

on to complete the mission. We are simply about to shift colors and go to a new homeport."

BUMED has been located at "the Hilltop" in the Foggy Bottom area of Washington for 70 years, but the campus has served a variety of U.S. Navy and Navy Medicine activities for nearly a century. The compound holds significant Navy historical value and houses the original Naval Observatory.

"It is with mixed emotions that we are leaving here," said Rear Adm. Michael H. Mittelman, U.S. Navy deputy surgeon general. "It is also with excitement that we will be moving to our new location. This place will always hold a special place in our hearts. Our ethos will not change, just where we sit."

BUMED will be collocating with its Army, Air Force and TRICARE

Management Activity medical counterparts into a new facility called the Defense Health Headquarters, but all the services will maintain their own missions and leadership structure.

In a May 9 email message to his BUMED staff, Nathan emphasized that the mission goes on despite the move.

"Defense Health Headquarters is not an entity, it is simply a building," said Nathan. "BUMED has a long and proud tradition, and an eight-mile stretch of highway does not change that. An address is only a geographic location. It is not what makes our command great – it is each and every one of you, your dedication, your hard work and your commitment to our Sailors and Marines to provide them the very best in care and support."

The new address for BUMED is 7700 Arlington Blvd, Falls Church, Va., 22042-5113.

# Schoeler Relieves Hathaway as NAMRU-2 Pacific Commander

From Navy Region Hawaii Public Affairs

Capt. George B. Schoeler relieved Capt. Gail L. Hathaway as commanding officer of U.S. Naval Medical Research Unit No. 2 ([NAMRU-2](#)) Pacific during a change of command ceremony April 20 alongside the Battleship Missouri Memorial at Joint Base Pearl Harbor-Hickam.

The mission of NAMRU-2 is to identify infectious disease threats of military and public health importance and to develop and evaluate interventions and products to mitigate those threats.

"NAMRU-2 has been on the cutting edge of disease discoveries and has recently diagnosed diseases thought dormant for more than 50 years," said Hathaway.

"Almost two years ago, I assumed command," said Hathaway. (Hathaway assumed command of NAMRU-2 Pacific on June 17, 2010.) "At the time it was me, here in Hawaii, and three officers located in Southeast Asia. Our staff also included a cadre of about 70 international researchers and support staff. Today we have a staff of 17 outstanding professionals here in Hawaii,



*Capt. Gail Hathaway, the outgoing commanding officer of U.S. Naval Medical Research Unit No. 2, arrives at the change of command ceremony.*

four officers in Southeast Asia and the same 70 international staff."

About 100 guests attended the ceremony, including guest speaker, Rear Adm. Michael H. Mittelman, Navy deputy surgeon general.

"Your work, led by Captains Hathaway and Schoeler, are truly force multipliers," said Mittelman. "Regardless of the challenges ahead, and there are many, Navy medicine is well-positioned for the future because of the work you and your team have done and because of leaders like these two."

During the ceremony, U.S. Pacific Band played music and Navy Region Color Guard presented the colors. Aaron Mahi, special guest and friend of Hathaway, gave a Hawaiian blessing according to the NAMRU-2 Pacific website. NAMRU-2 Pacific supports American interests in the Pacific theater and advances U.S. diplomacy in the region by studying infectious diseases of critical public health importance to the United States and other regional partners.

NAMRU-2 Pacific provides the United States with a continued forward presence that combines virology, microbiology, epidemiology, immunology, parasitology and entomology into a comprehensive capability to study tropical diseases where they occur. In this environment, new preventive measures and treatments can be tested and evaluated to provide better health measures for U.S. government personnel working in the region.



*Capt. George Schoeler (left) relieves Capt. Gail Hathaway of command at NAMRU-2.*

## Lt. Cmdr. Barnett Teaches Science in a Spanish Immersion Class

By Lt. Vince Gerbasi

Rolling Terrace Elementary in Takoma Park, Md., a Naval Medical Research Center (NMRC) Science, Technology, Engineering and Mathematics (STEM) partner school, has a large

population of students who speak Spanish as their primary language. At Rolling Terrace, parents have the option of placing their children in Spanish immersion classes. Students who speak English as a first language benefit from these immersion courses



*Lt. Cmdr. Barnett speaks to Rolling Terrace students about sound phenomena.*

by learning core subjects (such as math and science) in Spanish. As a result, students gain a double benefit from their courses by expanding their language base and fulfilling core subject requirements.

Lt. Cmdr. William Barnett, an industrial hygiene officer at NMRC, taught the 3rd grade Spanish immersion class a lesson on the physics of sound. The lesson was a complement to their current unit, which requires students to design their own musical instrument. Barnett speaks both Spanish and English and is an expert in sound phenomena. He was able to provide a lesson that would reach both the native English speaking students and the English as a second language students.

Teaching diverse populations of students near the Silver Spring area is part of NMRC's ongoing effort to promote STEM education. In the future, we hope to leverage our unique staff of scientific experts to enrich science education in under-represented student populations.

## BDRD Promotes Science, Technology, Engineering and Math

Lt. Mario Guerrero, a biochemist, and Hospital Corpsman First Class Judith Gigremosa, an advanced laboratory technician, represented the Naval Medical Research Center (NMRC) Biological Defense Research Directorate (BDRD) at Walkersville Middle School in Walkersville, Md., May 11. Guerrero and Gigremosa participated in the school's second annual Science, Technology, Engineering, and Mathematics (STEM) event. The event attracted representatives of local government and private industry within Maryland interested in sharing their careers with community youth. Careers explored at this event ranged from microbiology to astronomy.

Guerrero and Gigremosa showcased BDRD's tools of the trade for students interested in science and technology. Their focus was on the detection of biological markers, which generated a highly interactive discussion with the students about diseases in the environment.

Students were able to view live rabbit cells in a microscope and a single colony of bacteria on a Petri dish. They also received a hand-held kit to perform their own at-home experiment. Students examined a field polymerase chain reaction instrument as an example of engineering strides taken to ruggedize and downsize state-of-the-art technology used for science.

"NMRC STEM outreach to local schools is greater than

it's ever been before with regular engagements occurring at Maryland schools such as Rolling Terrace Elementary, New Midway Elementary and Walkersville Middle School," said Guerrero. "Military personnel and other employees have also participated frequently at other schools in Montgomery and Frederick Counties through the Naval Reserve Officers Training Corps, Montgomery County Business Roundtable for Education, the Frederick County Business Roundtable for Education, and events or activities sponsored by the members of the National Interagency Confederation for Biological Research."



## NAMRU-3 Assists in Expanding Egyptian Public Health Capacity

By Susan Woodfin, NAMRU-3 Public Affairs

U.S. Naval Medical Research Unit No. 3 ([NAMRU-3](#)) staff members participated in the April 30 ribbon cutting ceremony for two upgraded laboratories at the Damanhour Center of Excellence, a collaborative project between the Egyptian Ministry of Health and Population (MOHP), NAMRU-3, and the U.S. Centers for Disease Control and Prevention (CDC). The Molecular Diagnostics Laboratory, completed June 2011, and the Tuberculosis (TB) Diagnostics Laboratory, completed March 2012, complement the existing CDC International Emerging Infections Program (IEIP) - Egypt bacteriology and serology laboratories and will facilitate

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GDDRP's Dr. Hoda Mansour speaks with lab techs in the TB lab.

## Navy Cuts Ribbon on New Biodefense Laboratory at Ft. Detrick



From left: Rear Adm. Bruce A Doll, medical advisor, Headquarters, Supreme Allied Commander Transformation; Navy Capt. J. Christopher Daniel, deputy commander, MRMC; and Dr. Mark Munson, deputy department head, Molecular Diagnostics Department, discuss development of molecular diagnostics assays at the new NMRC Biological Defense Research Directorate laboratory.

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Materiel Command], the Army Garrison, the Corps of Engineers and the BDRD staff – and so many more. So this is a celebration of teamwork and an opportunity to work with this great community, with all its capabilities.”

In his remarks, Navy Capt. J. Christopher Daniel, Deputy Commander, MRMC, pointed out that the Navy has had a presence at Ft. Detrick for many years, “Navy Medicine has been here at Ft. Detrick since at least 1985 initially when the Navy Medicine Logistics Command moved here, and in 2008 NAVMED-LOGCOM became part of the Defense Medical Logistics Center. Since the mid 1990s Navy liaison officers and other officers, such as myself, have been detailed to MRMC.”

The research team was already hard at work before the ceremony; guests and visitors from Ft. Detrick and the National Interagency Confederation for Biological Research had an opportunity to tour the laboratory and talk with the research team.

# Lighting Research Center Scientists Visit Groton Laboratory



From NSMRL Public Affairs

Scientists from the Lighting Research Center (LCR), Rensselaer Polytechnic Institute, met with researchers from the Naval Submarine Medical Research Laboratory ([NSMRL](#)) as well as engineers from the Common Missile and Human Systems Departments

of General Dynamics Electric Boat in Groton, Conn. to discuss lighting as it relates to health and workspace illumination, April 17.

LCR, located in Troy, N.Y., is the world's leading university-based research and education center devoted to lighting. Scientists conduct research into energy efficiency, new products and technologies, lighting design and human factors issues.

Dr. Mark Rea, LRC director and professor of cognitive science, and Dr. Mariana Figueiro, LRC Light and Health Program director and associate professor, began their visit by taking a brief tour of NSMRL's laboratories. Rea then gave a presentation on "Remote Airfield Lighting: Modeling Sequential Tasks Using the Unified System of Photometry." Investigators from the U.S. Coast Guard Research and Development Center joined Electric Boat and NSMRL for the presentation.

***"Many physical and psychological attributes particularly relevant to the warfighter, including risk-taking behavior, threat detection, and decision making, are dependent on the biological rhythm phase. By effectively controlling the type and quantity of light exposure, the ability to shift and maintain the circadian phase can be achieved."***

LCR researchers have a history of collaborations with NSMRL principal investigators related to lighting and health. Recent LRC studies demonstrate entrainment of circadian rhythms with specific wavelengths of light.

A new collaborative study with NSMRL researcher Lt. Cmdr. Shawn Soutiere is focusing on developing and validating the use of a personal light-treatment device and light filtration glasses as a means to phase-shift and phase-lock circadian rhythms to optimize operational readiness.

***"Many physical and psychological attributes particularly relevant to the warfighter, including risk-taking behavior, threat detection, and decision making, are dependent on the biological rhythm phase. By effectively***



*From left: Dr. Mariana Figueiro, Light and Health Program director and associate professor at the Lighting Research Center (LCR), Rensselaer Polytechnic Institute; Ens. Michelle Webster, Naval Submarine Base New London Public Affairs; Dr. Mark Rea, LRC director and professor of cognitive science; and Lt. Cmdr. Shawn Soutiere, Naval Submarine Medical Research Laboratory (NSMRL) researcher, listen as Capt. Paul Kelleher, NSMRL commanding officer, describes the command's different studies and research capabilities.*

controlling the type and quantity of light exposure, the ability to shift and maintain the circadian phase can be achieved," said Soutiere in describing the collaborative study. "Research in and of itself is a complex activity, often requiring a mix of academic or professional disciplines. Sound collaborative initiatives such as between the LRC and the NSMRL help to promote greater research results, which then benefit the warfighter."

The United States Submarine Service has a long and proud tradition of developing and operating with leading-edge technologies. NSMRL is a major contributor to integrating these technologies into submarine crew operations. NSMRL is the Department of Defense's center for Undersea Biomedical Research. The laboratory's mission is to protect the health and enhance the performance of warfighters through submarine, diving and surface biomedical research solutions.

## New U.S. Africa Command Surgeon Visits NMRC, Tours Labs



Cmdr. David Regis (left), Operational and Undersea Medicine department head, gives a tour of the diving spaces to Capt. David Weiss (center), AFRICOM Surgeon, who stands near NMRC's executive officer, Capt. John Sanders (right).

The Naval Medical Research Center (NMRC) hosted the new AFRICOM Surgeon, Capt. David Weiss, April 20 for an enterprise overview brief including a summary of the research being conducted at the overseas laboratories in Peru, Hawaii, and Egypt. Weiss toured the NMRC Infectious Diseases Directorate (IDD) and the Operational and Undersea Medicine Directorate (OUMD).

IDD researchers highlighted their work in research and vaccine development related to malaria, enteric diseases and viral and rickettsial diseases. IDD also pointed out the research being done by NMRC and the U.S. Naval Medical Research Unit No. 3 in Cairo in collaboration with the Noguchi Memorial Institute of Medical Research and the Ghana Ministry of Health from 1996 through 2011.

OUMD provided information on their research into improving survival from battlefield neurotrauma, preventing and treating decompression sickness, and improving the diagnosis and treatment of battlefield wounds.

## NAMRU-2 Lab Tech Participates in Operation PACIFIC ANGEL

Hospital Corpsman First Class (HM1) Milton Lewis, an advanced medical lab technician from the U.S. Naval Medical Research Unit No. 2 (NAMRU-2) Pacific, was one of 30 American military members who participated in Operation PACIFIC ANGEL 12-2 in Lao in April. The PACIFIC ANGEL military team partnered with military and civilian staff from the Lao People's Democratic Republic to share medical expertise and provide medical care and treatment to more than 3,600 patients.

U. S. military personnel and Lao military and civilian medical professionals provided patients at the Lao-Mongolian Hospital in Phonsavanh and District Hospital in Phasay with specialized optometry, dental services and general medical treatment.

"It was a great cultural learning opportunity, to be here in Lao. We [NAMRU-2 Pacific] have a few projects running in Lao and it was good for me to finally see Lao, the people, and to

continue to help, give back, and build some capacity," said Lewis. "The time went by really fast. I wish we could've done more."

The mission provided Lewis a unique and fulfilling opportunity to utilize his experience and training as a hospital corpsman to care for patients and also learn new skills. Lewis exemplified the skills that make U. S. Navy hospital corpsmen the best in the world: the ability to improvise, adapt and overcome...even pulling teeth, literally!

"The dentist was super busy and she asked if anyone had some time to help. So I went upstairs and she showed me how to pull a tooth, and next thing you know I'm pulling teeth. In all I extracted seven rotten teeth, sure hope he feels better," said Lewis.

PACIFIC ANGEL, a U.S. Air Force-led joint U.S. military operation, occurs every other year, traveling to countries in the U.S. Pacific Command area of responsibility. This year's iteration of

PACIFIC ANGEL traveled to the Republic of the Philippines, Lao People's Democratic Republic, the Socialist Republic of Vietnam and the Federal Democratic Republic of Nepal providing subject matter expert exchanges in the fields of nursing care, trauma, and obstetrics and providing optometry, dental services, and general medical treatment.



HM1 Milton Lewis (left) assists with dental work during Operation PACIFIC ANGEL.

## NMRC Researcher Presents at NICBR Collaboration Forum

Cmdr. Guillermo Pimentel, deputy director of the Biological Defense Research Directorate (BDRD), Naval Medical Research Center ([NMRC](#)), presented a program overview at the National Interagency Confederation for Biological Research (NICBR) Collaboration Forum, which was held in conjunction with the 16th Frederick National Laboratory for Cancer Research and Fort Detrick Spring Research Festival in Frederick, Md., May 8.

Pimentel's presentation highlighted BDRD's current research projects and objectives. He pointed out that researchers at the Navy lab are discovering ways to protect the nation and deployed U.S. military personnel from biological attack by developing agent-specific identification assays, vaccines and therapeutics. The team utilizes the latest molecular technologies focused on Fleet protection, threat detection, development of biodefense countermeasures and advanced genome analysis.

"It was a great opportunity to bring our NICBR partners up to date on the work we are doing in our new facility," said Pimentel. "We are extremely excited about the opportunity to collaborate with well-renowned scientists and established research programs. Since 1992, BDRD has been an important contributor to the DoD Chem/Bio Defense Program. Our



*Cmdr. Guillermo Pimentel presents at the National Interagency Confederation for Biological Research Collaboration Forum.*

developing a new research program to study sepsis in austere environments. This new program will increase significantly our opportunity for collaborations. The expectations are high and I am very confident that our

to advance their research programs while performing their unique missions. Besides BDRD and the Frederick National Laboratory for Cancer Research, the other partners are the National Biodefense Analysis and Countermeasures Center of the Department of Homeland Security; Foreign Disease – Weed Science Research Unit of the Department of Agriculture; Centers for Disease Control and Prevention; U.S. Army Medical Research Institute of Infectious Diseases; and the National Institute of Allergy and Infectious Diseases Integrated Research Facility.

Research opportunities exist with the other federal agencies for collaboration on basic and applied research projects in clinical and basic epidemiology, cancer and infectious diseases, genomics and bioinformatics, advanced imaging technologies, forensic microbiology, natural products drug screening and vaccine development.

***"Since 1992, BDRD has been an important contributor to the DoD Chem/Bio Defense Program. Our expertise in field diagnostics and detection, advanced genomic analyses and laboratory models for vaccine studies complement nicely all the ongoing research on National Interagency Biodefense Campus."***

expertise in field diagnostics and detection, advanced genomic analyses and laboratory models for vaccine studies complement nicely all the ongoing research on National Interagency Biodefense Campus [NIBC]. In addition, we are in the process of

Navy staff is ready for the challenge and will be active collaborators and partners."

BDRD is a NICBR partner and is located on NIBC at Ft. Detrick. NICBR is a consortium of federal partners that collaborate on areas of mutual interest

- POC:  
Dr. Joan Gebhardt ([joan.gebhardt](#))  
Dr. Mark Munson ([mark.munson](#))  
Dr. Jill Czarnecki ([jill.czarnecki](#))

### Areas of interest:

- Real-time PCR assay development
- Multiple instrumentation platforms
- Pyrosequencing analysis to compare
- Development of recombinant plasmids
- Test and evaluation of instruments under field conditions
- Lateral flow immunoassay development

## Lt. Cmdr. Franca Jones Lectures at Mentorship Seminar in May

Lt. Cmdr. Franca Jones, who is on detail from the Naval Medical Research Center (NMRC) to the White House Office of Science and Technology Policy (OSTP), lectured at the NMRC Mentorship Seminar Series May 3. Jones's topic was Government Science and Technology (S&T) Priorities and Budget: Role of Navy Medicine Research and Development. The goal of the lecture was to provide an overview of the role of OSTP in the White House, how U.S. Government S&T priorities are generated, how those priorities relate to the activities being conducted at NMRC, and how S&T budgets can be impacted by established priorities.

Jones educated the audience on the role of OSTP, which has two, mirror-image responsibilities: Policy for S&T, which means crafting policies in ways to strengthen the nation's S&T enterprise, and S&T for Policy, which means the application of S&T knowledge to inform the policymaking process. OSTP staffs the OSTP

Director and President's science advisor and provides the President (and his staff) the best, most scientifically accurate and timely advice possible. OSTP speaks on behalf of the White House on S&T issues and provides advice to the Office of Management and Budget on budget

among others.

OSTP's strength is its ability to convene interagency members to direct S&T solutions to common problems and priorities; many of which impact military service members and civilians alike. Jones described how several activities being carried out at

***The White House Office of Science and Technology Policy's strength is its ability to convene interagency members to direct S&T solutions to common problems and priorities, many of which impact military service members and civilians alike.***

decisions related to S&T. When multiple science agencies have similar issues, OSTP plays the lead role in organizing a multi-agency solution. OSTP can act through a variety of mechanisms including Executive Orders, Presidential Policy Directives and Strategies, and the National Science and Technology Council,

OSTP can impact NMRC. As an example, Jones discussed how her work on biosurveillance S&T could drive future research and development of diagnostic platforms as well as new detection devices and information technology systems for sharing information rapidly. Another example is microbial forensics, where NMRC has a robust research and development activity. This activity is driven from the 2009 National Research and Development Strategy for Microbial Forensics. Finally, the National Strategy for Countering Biological Threats establishes goals for collaboration with international partners on countering biological threats; the activities conducted at NMRC's overseas activities fulfill many of the goals in that strategy. On national security policy matters heavily impacting science, OSTP collaborates with the national security staff. Jones described several activities that either impact NMRC or support the work that NMRC conducts, including policies on biological security and dual use research of concern in the life sciences.

Jones described the importance of NMRC leadership and junior officers getting involved in the S&T policymaking process to ensure that they have a voice and that such policies affect them in a positive way. Jones will host the NMRC junior officers on a tour of the White House in June.



Lt. Cmdr. Franca Jones discusses government science and technology priorities as part of the NMRC Mentorship Series. Photo by Phil Collins.

## NAMRU-3 Assists in Expanding Egyptian Public Health Capacity

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a wider range of diagnostic tests for infectious diseases of public health importance. Damanhour is the first of three centers of excellence envisioned by the MOHP in collaboration with NAMRU-3 and the IEIP. The city of Damanhour is in Beheira Governorate, which is located in the delta of Egypt about midway between Cairo and Alexandria. The Center of Excellence is located in MOHP facilities there.

Lt. Cmdr. Brent House of the NAMRU-3 Global Disease Detection and Response Program (GDDRP) was responsible for supervising the design of the TB Diagnostics Laboratory spaces and the acquisition of appropriate equipment and supplies.

"Both laboratories were specifically renovated to utilize locally available equipment and supplies, creating a sustainable diagnostic laboratory model for all of Egypt," said House. "The TB Laboratory, in particular, will include WHO [World Health Organization] endorsed diagnostic assays that are both quick and affordable."

The ceremony was attended by 55 representatives from Egypt's central level Ministry of Health and Population, the General Office for Veterinary Services, NAMRU-3, CDC, and directors and staff from the various hospital facilities participating in the population-based surveillance activities in Damanhour. Dr. Mohamed Geneidy, General Director of the Communicable Disease Department of the MOHP, attended. Dr. Nasr El Sayed, Assistant Minister of Health and Population, Preventive Sector, had visited the laboratories April 29 and expressed interest in utilizing the laboratory facilities for local outbreak investigations and surveillance for diseases of local and regional public health interest to build on the ongoing surveillance platform.

Capt. Robin Wilkening, NAMRU-3 commanding officer, noted, "These modern and sustainable laboratories, built as a cooperative effort between Egyptian and U.S. partners, will not only serve the people of Damanhour and Beheira Governorate today but will



MOHP's Dr. Mohamed Geneidy at the ribbon cutting ceremony.

also serve as a focal point for infectious disease surveillance and laboratory training for the future. Enabling self-sufficiency in public health laboratory capacity is a key goal of NAMRU-3's mission in Egypt and throughout the Eastern Mediterranean region."

Attendees were given a presentation by CDC IEIP-Egypt's Executive Director, Dr. Mohamed Abukela, on the historic background and current program accomplishments. Dr. Erica Dueger, NAMRU-3's GDDRP head, summarized the surveillance data analyzed to date. Following the ribbon-cutting ceremony, attendees toured the new laboratories.

The Molecular Diagnostics Laboratory staff is currently detecting influ-

enza virus from acute respiratory infection patients in IEIP's population-based surveillance system. The TB Diagnostics Laboratory staff are facilitating tuberculosis diagnosis using conventional culture and a new, WHO-endorsed method called microscopic observation drug susceptibility assay. This testing technique will be used for patients from Beheira Governorate's hospitals and for future disease surveillance activities. These laboratories will serve as a training facility for diagnostics, biosafety and biosecurity, and infectious disease epidemiology for local and regional laboratory, clinical, and public health professionals. The first training of this type, for Laboratory Risk Management and Biosafety, took place May 27-31.

## Quarterly Update from NMRC's Office of Technology Transfer

By Todd. A. Ponzio, Director, NMRC Office of Technology Transfer

All those involved in Navy Medicine's biomedical research have warfighter medical support interests in mind when doing their studies. Technologies being developed in our laboratories range from vaccines against difficult-to-treat militarily important infectious diseases and new devices for safe egress from troubled vessels to methods to enhance battlefield wound healing. Each new discovery is the culmination of significant fiscal and human resources and the result of countless hours of experimentation. These efforts can result in a Navy patent that leads to a license directed at the construction of a deployable product. Key to making this happen is the [Naval Medical Research Center](#) Office of Technology Transfer.

Following are a few examples of successful patent and partnership agreement efforts. First, hats off to the Navy Medicine malaria program, headed by Capt. Thomas Richie, for identifying a host of novel potential antigens as promising vaccine candi-

dates. Other contributors to these efforts, in addition to Capt. Richie, include Drs. Aguiar, Limbach and Sedagah. Their efforts led to the filing of a number of patent applications over the past few years. Having a vaccine for this life-threatening disease could serve both a military and a humanitarian purpose, particularly in Africa. The Navy Medicine malaria program continues to diligently work toward finding a vaccine, with many promising results.

Another patent was filed recently for a novel and rapid method of detecting hepatitis B. The inventor, Dr. Wei Mei Ching, has an established research program related to the microbe *Rickettsia*. She applied her efforts developing treatments for rickettsial diseases to a detection assay for hepatitis B. This is often how inventions are made, and in this case, the invention could show great utility, especially for diagnostic purposes.

Another patent application that highlights the diversity of efforts within the Navy Medical Research Enterprise involves a new type of helmet 'strap' system. The new

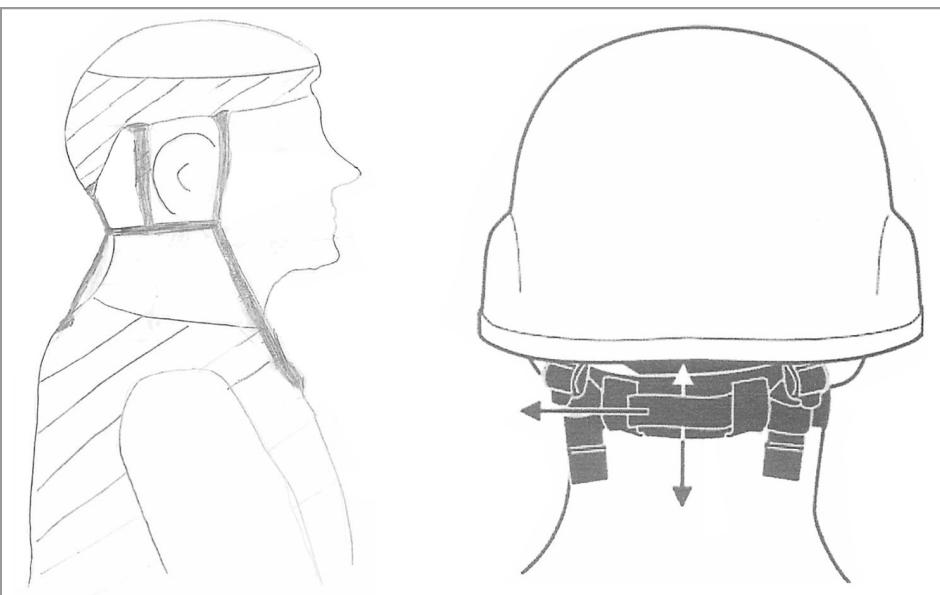


Todd A. Ponzio, Director, NMRC Office of Technology Transfer

system for securing a helmet was designed to reduce spine and jaw dysfunction associated with helmet movements during traumatic events. This technology was developed by Capt. Michael Rocklin of the [Naval Medical Research Unit-San Antonio](#).

Over the past months, a number of important collaborations and partnerships have been launched involving a wide assortment of entities, including non-profits, large and small biotechnology companies, universities and foundations. Navy biomedical scientists continue to collaborate extensively through Cooperative Research and Development Agreements (CRADAs), which can often significantly supplement the laboratory budget.

There's never a dull moment here in the Office of Technology Transfer, which further indicates the successful nature of our scientists. As we in the OTT execute various agreements like CRADAs or patent license agreements, it is easy to gain a sense of pride about Navy biomedical research. So to all those involved in the Navy biomedical research endeavor, keep those discoveries coming, and we'll do our part to move them toward deployment.



This new system for securing a helmet was designed to reduce spine and jaw dysfunction associated with helmet movements during traumatic events. The technology was developed by Capt. Michael Rocklin of the Naval Medical Research Unit-San Antonio.

## NAMRU-5 Plaque Has a New Home at NMRC Headquarters

The U.S. Naval Medical Research Unit No. 5 (NAMRU-5) command plaque that once hung on the wall of the laboratory in Addis Ababa, Ethiopia, now has a new home at the Naval Medical Research Center (NMRC) in Silver Spring, Md.

Randal LeBlanc, the U.S. technical project officer for Biomedical International Agreements, [NAMRU-San Antonio](#), presented the plaque to Capt. Richard L. Haberberger Jr., commanding officer of NMRC, May 18. The plaque now hangs in a place of honor in the command suite along with the other plaques from the Navy's biomedical research and development laboratories.

NAMRU-5 was established as a field facility of [NAMRU-3](#), Cairo, December 30, 1965, by agreement between the U.S. and Ethiopian governments and later became a separate command July 1, 1974. The mission of NAMRU-5 was to conduct research and development on infectious diseases of military importance in sub-Saharan Africa. The lab was located on the grounds of the Imperial Central Laboratory Research Institute, managed by the Ethiopian Ministry of Health. NAMRU-5 had a field station in Gambella, a town in the southwestern lowlands of Ethiopia, which became the focus of a major malaria control effort and studies on malaria immunol-

***The mission of NAMRU-5 was to conduct research and development on infectious diseases of military importance in sub-Saharan Africa.***

ogy. Notably, members of the NAMRU-5 staff were also among the last few Americans to see smallpox before its eradication.

During its twelve-year existence, NAMRU-5 compiled an impressive record of epidemiological and laboratory research. The staff built productive



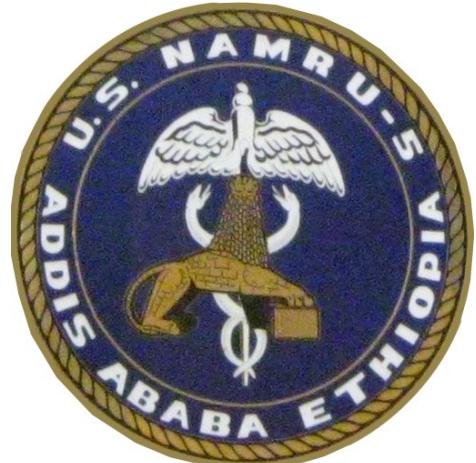
Randal LeBlanc, director of Research Support at NAMRU-San Antonio, presents the NAMRU-5 plaque to Capt. Richard Haberberger, commanding officer at NMRC.

cooperative research efforts with the U.S. Centers for Disease Control and Prevention; with local medical facilities, including the Haile Selassie University Medical School and various hospitals in Addis Ababa; and with the London School of Tropical Medicine, the University of Washington, Case Western Reserve University Department of Medicine and the University of Maryland School of Medicine.

In addition to malaria, research focused on diseases endemic to Ethiopia such as louse-borne typhus, which is only found in that country; parasitic infections including onchocerciasis (African River Blindness), Brancroftian filariasis and trypanosomiasis (African Sleeping Sickness); and Yellow Fever, West Nile Fever, enteric diseases and acute fevers of undetermined etiology. Applied research focused on the general areas of insect repellents, insecti-

cide resistance, insect attractants and louse control.

The lab was closed during political upheavals. In April 1977 the Ethiopian military government ordered the U.S. to close facilities in the country, which included NAMRU-5, and gave American personnel four days to leave.



## Research Competition Highlights – Alfieri Wins Phillips Award



*Lt. Cmdr. Keith Alfieri, orthopedic surgery resident.*

Residents, fellows and staff members at the Walter Reed National Military Medical Center (WRNMMC) had an opportunity to showcase their research in military medicine during the fourth annual National Capital Region Military Research Competition, held at the medical center, April 11-18.

Lt. Cmdr. Keith Alfieri, an orthopedic resident completing a rotation in the Regenerative Medicine Program, Operational and Undersea Medicine Directorate, Naval Medical Research Center ([NMRC](#)), won the Robert

### A. Phillips Award.

Alfieri said he focused his research on using wound-specific, instead of patient-specific, genetic indicators to determine which wounds would develop abnormal bone formations within the muscle tissues, which he said is a significant concern in the blast-injured patient population.

"The team at NMRC is doing unbelievably complex, yet clinically applicable world-class research that is on the cutting edge of science," Alfieri said. "It is an honor to be a member of the team and present such groundbreaking work. To be able to contribute even a small amount to helping wounded

warriors regain meaningful functional mobility and independence is incredible rewarding."

"The Philips Award was given at WRNMMC for resident research in the basic science category and involves merits associated with writing ability and presentation skills in addition to the quality of the science," said Dr. Jonathan Forsberg of the NMRC Regenerative Medicine Department. "Keith used data from a project funded by a BUMED advanced development grant to develop an artificial neural network trained to estimate the likelihood that an individual combat-related wound will go on to form heterotopic ossification, the single most important barrier to functional recovery and return to duty."

Alfieri will join three other award winners to advance to the annual Navy-wide Academic Research Competition in May hosted at WRNMMC. They will compete against participants from several other military treatment facilities, such as Portsmouth and San Diego.

Alfieri's project was titled, "Early Risk Stratification for Wound-specific Heterotopic Ossification Formation in Combat Casualties," and he plans to present his work at the Military Health System Research Symposium (MHSRS, formerly known as Advanced Technology Applications for Combat Casualty Care) in Ft. Lauderdale, Fla., August 13-16. The MHSRS provides a tri-service, academic-based venue for the distribution and discussion of new scientific knowledge resulting from military-unique research and development.

## Greetings from the NMRC Ombudsman!

**Happy Father's Day!** Make that call or send that card to Dad this month! Father's Day is June 17. Following in the footsteps of their fathers, many of today's fathers proudly serve our Navy. This is the month to take a moment to recognize the contributions that fathers have made to our lives and to our Navy. A special thank you goes out to the fathers and shipmates who are away from their families defending us and our freedom.

**War of 1812 Bicentennial Celebrations!** Summer is around the corner, and what better way to celebrate than with a little sun, fun and naval history? As many of you undoubtedly know, this year marks the bicentennial of the War of 1812. Largely a maritime war against Great Britain, the war gave rise to our modern-day Navy and established our commitment to free and open seas. The war also provided us with iconic symbols of our country's might and determination, such as "Old Ironsides" and the Star Spangled Banner.

A premier event commemorating the War of 1812 and the penning of the National Anthem will launch in Baltimore on June 13 with a "Sailabration" of ships into Baltimore Harbor. More than forty ships, including U.S. Navy, British, and Canadian "grey hulls" and tall ships from around the globe, are expected for the festivities. Head to Baltimore and enjoy the free tours of the naval and tall ships, live entertainment, hands-on fun for children, and the air show featuring the Blue Angels. Also, don't forget to visit the Flag House in Baltimore, the birthplace of the Star Spangled Banner. As part of the War of 1812 commemorations, a special ceremony involving the National 9/11 Flag will also occur on Flag Day, June 14. For more information about the War of 1812 bicentennial celebration, visit Baltimore's War of 1812 "Sailabration" website at <http://www.star-spangled200.com/>. Additional details regarding the events of Flag Day can also be found at <http://www.flaghouse.org/>.

Budget wisely, pack the sunscreen (among other things), and have fun! Don't forget to plan ahead if you intend to visit Baltimore for the festivities or take other trips with your family this summer.

Alexandra Mora  
Ombudsman, NMRC

## NMRC Researchers Receive Travel Medicine Research Award

April 2012, Cmdr. Mark Riddle, deputy head of the Naval Medical Research Center (NMRC) Enteric Diseases Department, and Lt. Brian Pike, staff scientist, received their first International Society of Travel Medicine (ISTM) research award. The award is given to recognize research efforts to stimulate travel medicine research by supporting comprehensive research projects.

Capt. Stephen Savarino, head of the Enteric Diseases Department, said, "This award, although small, is highly competitive. The success of our crew

in being one of the winners highlights the widespread respect and most positive reputation that Cmdr. Riddle enjoys in this large international forum (among others), the 'hit the ground running' stance and smarts of Lt. Pike, who did a lot of the heavy lifting for this proposal under tight timelines, and the high level of commitment to mentorship of junior officers and others in our junior scientific corps by Cmdr. Riddle, is indicative, I believe, of a culture of 'living, breathing', meaningful mentorship within the directorate as a whole."

The research being conducted by the NMRC team looks to identify the biomarkers in Irritable Bowel Syndrome (IBS) cases associated with common causes of travelers' diarrhea. IBS is a condition broadly characterized by chronic or recurrent bouts of abdominal pain or discomfort associated with altered bowel function.

To merit such an award, a series of publications from the research team on the incidence and burden associated with post-infectious IBS have been published. This preliminary work allowed them to submit a favorable proposal to advance their research to the next step. Riddle conceived the idea and provided guidance and direction to Pike, who developed the proposal submitted and awarded funding.

This was the first time the Enteric Diseases Department demonstrated the utility of combining the Department

of Defense serum repository with medical encounter data – a unique resource for both DoD and society. Receiving this award will come with many opportunities for the researchers and their directorate to excel.

"If our research is shown to be successful, it is likely that our group would be able to submit a research proposal to the National Institutes of Health to more broadly explore the biomarkers of post-infectious chronic health consequences and their link to acute infectious gastroenteritis," said Riddle.



*Cmdr. Mark Riddle, deputy head of the Enteric Diseases Department.*



*Lt. Brian Pike, Enteric Diseases Department staff scientist.*

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